

Work Order ID 77954

77954

Page 1

December-23-11 10:26:19 AM

Item ID: D206-642-151

Accept

N900040100

Setup Start *NS1*

Revision ID:

Stop *NS2*

Item Name: Replacement Skidtube

Start Date: 22/12/2011 Start Qty: 1.00 *1*

Cust Item ID:

Required Date: 01/02/2012 Req'd Qty: 1.00 *1*

Customer:

Reference:

Approvals: Process Plan: M.L.S Date: 11/12/23

Tooling:

Date:

Run Start *NR1*

QC: Date:

SPC (Y/N):

Date:

Stop *NR2*

| Sequence ID/ Work Center ID | Operation Description | Set Up/ Run Hours | Tool ID | Tool # | Plan Code | Accept Qty | Reject Qty | Reject Number | Insp. Stamp |
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
| Draw Nbr | Revision Nbr | | | | | | | | |
| D3804 | A | | | | | | | | |
| IIN-D206-642 | O | | | | | | | | |

100

0.00

100

DOCUMENT CONTROL

DC

Memo

0.00

Document Control

Photocopy bluefile & type labels per PPP D206-642-151

CHG001

N/A OK 12/2/17

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
| | | | | | | | |
| | | | | | | | |

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
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NOTE: Date & initial all entries

Work Order ID 77954

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Item ID: D206-642-151

Accept

N9000040100

Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Replacement Skidtube

Start Date: 22/12/2011 Start Qty: 1.00

1

Cust Item ID:

Required Date: 01/02/2012 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

| Sequence ID/ Work Center ID | Operation Description | Set Up/ Run Hours | Tool ID | Tool # | Plan Code | Accept Qty | Reject Qty | Reject Number | Insp. Stamp |
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|

110

0.00

110

Skidtubes

0.00

Skidtubes

Skidtubes

Memo

1-Deburr Fwd edge of tube

2- Remove ridge on inside of Fwd edge of tube as per Dwg D3804

3-Weld Fwd Cap as per Dwg D3804. Use aluminum rod. Grind D2647 to fit as required.

Pick:

Qty Part Number Description Batch

A/R Aluminum Rod

M119712/M119785 } BB 12-1-26

4-Grind weld flush to cap on top surface only.

5-Cut Aft end as per dwg D3804 from front of tube and Deburr

6-Remove inner indexing ridge on Aft end of skidtube as per Dwg D3804

7-Open holes for Aft end cap as per Dwg D3804 with #30 Drill Bit using DT8025.

8-Drill pilot holes using Dt8166 & DT8169D & DT9771.

9-Locate DT8732 from inner Aft saddle hole & 3rd crossbolt hole. Insert D3286-1 doubler using DT8732 & D206-642-241-T1, then locating doubler off of 3/16" holes, cleco DT8732 & doubler leaving DT8732 for added support.

10- Drill D3286-1 doubler rivet holes in tube using # 30 drill, spot drilling doubler at the same time.

RM/D 12-1-25

RM/D 12-1-27

12-1-27

12-1-27

SAD 12-02-06

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
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Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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NOTE: Date & initial all entries

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N900040100

Setup Start *NS1*

Stop ***NS2***

1

*** 1 ***

Reference:

Run Start *NR1*

Stop *NR2*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

8/12/02/06

| W/O: | | WORK ORDER CHANGES | | | | | |
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December-23-11 10:26:19 AM

Item ID: D206-642-151

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N900040100

Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Replacement Skidtube

Start Date: 22/12/2011 Start Qty: 1.00

1

Cust Item ID:

Required Date: 01/02/2012 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

| Sequence ID/ Work Center ID | Operation Description | Set Up/ Run Hours | Tool ID | Tool # | Plan Code | Accept Qty | Reject Qty | Reject Number | Insp. Stamp |
|--------------------------------|---|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
| 140 | Chemical Conversion Coat per QSI005 4.1 | 0.00 | | | | | | | |
| *140* | | | | | | | | | |
| HandFinish | Memo | 0.00 | | | | | | | |
| Hand Finishing | | | | | | | | | |
| 150 | QC3- Inspect Part Finish | 0.00 | | | | | | | |
| *150* | | | | | | | | | |
| QC | Memo | 0.00 | | | | | | | |
| Quality Control | | | | | | | | | |
| 160 | Skidtubes | 0.00 | | | | | | | |
| *160* | | | | | | | | | |
| Skidtubes | Memo | 0.00 | | | | | | | |
| Skidtubes | 1-Open holes to finished size as per Dwg D3804, (without cutting fluid) | | | | | | | | |
| | 2-C'sink crossbolt spacer holes as per Dwg D3804(without cutting fluid) | | | | | | | | |
| | 3-Deburr and blow out all chips from inside the tube | | | | | | | | |

Dart Aerospace Ltd

| W/O: | | WORK ORDER CHANGES | | | | | |
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Work Order ID 77954***77954***

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December-23-11 10:26:19 AM

Item ID: D206-642-151

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N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Replacement Skidtube

Start Date: 22/12/2011 Start Qty: 1.00

1

Cust Item ID:

Required Date: 01/02/2012 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

| Sequence ID/ Work Center ID | Operation Description | Set Up/ Run Hours | Tool ID | Tool # | Plan Code | Accept Qty | Reject Qty | Reject Number | Insp. Stamp |
|--------------------------------|---|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
| 190 | QC5- Inspect part completeness to step on W/O | 0.00 | | | | | | | |
| *190* | | | | | | | | | |
| QC | Memo | 0.00 | | | | | | | |
| Quality Control | | | | | | | | | |

1 0 8612-02-08

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
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Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Item Name: Replacement Skidtube

Start Date: 22/12/2011 Start Qty: 1.00

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1

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

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|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
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200

0.00

200

Skidtubes

0.00

Skidtubes

Memo

1-remove alodine from around hole and prepare for welding

2-Prep per QSI 005 and Insert D2649 crossbolt spacers. Weld as per QSI 004 and Dwg D3804. Remember to back drill each hole to 0.25" before welding the other side. Use aluminum rod.

Pick:

QtyPart NumberDescriptionBatch
A/RAluminum Rod M119785

3-Grind welds flush as per Dwg D3804.

4-Using DT8733, insert (2) D3286-3 spacers as per QSI 004 and Dwg D3804. Remember to back drill each hole to Ø0.402" before welding other side. Use SS rod as required.

A/RSS Rod NONE

5-Counterbore 5/16" x 0.750" deep except 7th hole from Aft end as per Dwg D3804. Deburr

86 12-02-08

8 12/02/09

86 12/02/09

DP 12-2-9

| W/O: | | WORK ORDER CHANGES | | | | | |
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Revision ID:

Stop ***NS2***

Item Name: Replacement Skidtube

Start Date: 22/12/2011 Start Qty: 1.00

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Cust Item ID:

Required Date: 01/02/2012 Req'd Qty: 1.00

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Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

| Sequence ID/ Work Center ID | Operation Description | Set Up/ Run Hours | Tool ID | Tool # | Plan Code | Accept Qty | Reject Qty | Reject Number | Insp. Stamp |
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|

210

0.00

210

HandFinishing

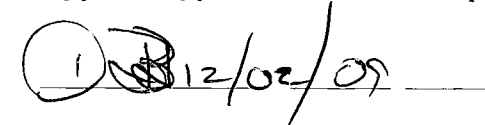
HandFinish

Memo

0.00

Hand Finishing

Install D2680-041 Nut Plate as per Dwg D3804



215

QC9- Inspect visual per QSI004- Fusion Welds

0.00

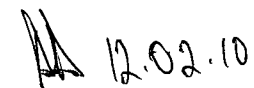
215

QC

Memo

0.00

Quality Control



220

QC10- Inspect visual per QSI004- ground welds

0.00

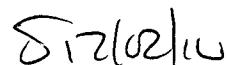
220

QC

Memo

0.00

Quality Control



| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
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Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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Work Order ID 77954

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December-23-11 10:26:19 AM

Item ID: D206-642-151

Accept

N900040100

Setup Start ***NS1***

Revision ID:

Item Name: Replacement Skidtube

Stop ***NS2***

Start Date: 22/12/2011 Start Qty: 1.00

1

Cust Item ID:

Required Date: 01/02/2012 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

| Sequence ID/ Work Center ID | Operation Description | Set Up/ Run Hours | Tool ID | Tool # | Plan Code | Accept Qty | Reject Qty | Reject Number | Insp. Stamp |
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|

230

QC5- Inspect part completeness to step on W/O

0.00

230

QC

Memo

0.00

Quality Control

240

Pressure Wash per QSI005 4.3

0.00

240

HandFinish

Memo

0.00

Hand Finishing

250

White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

0.00

250

Powdercoat

Memo

START TIME:
OVEN TEMPERATURE:
FINISH TIME:

10:20.00
320 °F
10:50

Powder Coating

M11A480

1 d M 12/02/13

1X4 M 12/02/15

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
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N900040100Setup Start ***NS1***

Revision ID:

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Required Date: 01/02/2012 Req'd Qty: 1.00 ***1***

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Run Start ***NR1***

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Stop ***NR2***

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|-----|--------------------------|------|--|--|--|--|--|--|--|
| 260 | QC3- Inspect Part Finish | 0.00 | | | | | | | |
|-----|--------------------------|------|--|--|--|--|--|--|--|

260

QC Memo 0.00

Quality Control

1 BL 12-2-16

| | | | | | | | | | |
|-----|--|------|--|--|--|--|--|--|--|
| 270 | | 0.00 | | | | | | | |
|-----|--|------|--|--|--|--|--|--|--|

270

HandFinishing Memo 0.00

Hand Finishing

HandFinishing

Memo
1-Install D2651-3 O-Rings on D2651-1 plugs with Petroleum Jelly and install
plugs as per Dwg D3804. Clean-excess adhesive.1 BL 12-2-16

RH

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
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Item ID: D206-642-151 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Replacement Skidtube
Start Date: 22/12/2011 Start Qty: 1.00 ***1*** Cust Item ID:
Required Date: 01/02/2012 Req'd Qty: 1.00 ***1*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

| Sequence ID/ Work Center ID | Operation Description | Set Up/ Run Hours | Tool ID | Tool # | Plan Code | Accept Qty | Reject Qty | Reject Number | Insp. Stamp |
|--------------------------------|--|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
| 280 | HandFinishing | 0.00 | | | | | | | |
| *280* | | | | | | | | | |
| HandFinish | Memo | 0.00 | | | | | | | |
| Hand Finishing | 1-Install D2646 Aft Cap and seat with Sikaflex. Clean excess adhesive A/RSikaflex-291 <u>11/5/28</u> Sikaflex expire date: <u>12/8</u> | | | | | | | | |
| | 2- Install wearplate as per dwg | | | | | | | | |
| | 2-Wing Walk as per Dwg D3804 and QSI 005 4.4 Batch: <u>119094</u> | | | | | | | | |
| 290 | QC3- Inspect Part Finish | 0.00 | | | | | | | |
| *290* | | | | | | | | | |
| QC | Memo | 0.00 | | | | | | | |
| Quality Control | | | | | | | | | |

1 62 12-2 16

Sikaflex

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
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77954

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December-23-11 10:26:19 AM

Item ID: D206-642-151

Accept

N900040100

Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Replacement Skidtube

Start Date: 22/12/2011 Start Qty: 1.00

1

Cust Item ID:

Required Date: 01/02/2012 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

| Sequence ID/ Work Center ID | Operation Description | Set Up/ Run Hours | Tool ID | Tool # | Plan Code | Accept Qty | Reject Qty | Reject Number | Insp. Stamp |
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|

300

QC5- Inspect part completeness to step on W/O

0.00

300

QC

Memo

0.00

Quality Control

310

Packaging

0.00

310

Packaging

Memo

0.00

Packaging

Identify and pack for shipping as per PPP D206-642-151

Location:

PPP Rev: PPP 76711

320

QC21- Final Inspection - Work Order Release

0.00

320

QC

Memo

0.00

Quality Control

10/2/02/120

OK 12/2/17

U 12.02.17

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
| | | | | | | | |
| | | | | | | | |

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC Section A | Corrective Action Section B | | | Verification Section C | Approval Chief Eng | Approval QC Inspector |
| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
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NOTE: Date & initial all entries

Picklist Print

December-23-11 10:26:23 AM

Page 1

Work Order ID: 77954

77954

Parent Item: D206-642-151

D206-642-151

Parent Item Name: Replacement Skidtube

Start Date: 22/12/2011

Required Date: 01/02/2012

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP REV:A 10.12.08 PER IIN REV:N DD VERF:EC
REV:B 11.09.16 PER IIN REV:O DD VERF:EC

IPP

| Component Item ID/ Item Name | Replacement Item ID | Mfg/ Purch | Bin Item | Primary Location | Last Location | Route Seq ID | Unit of Measure | Qty on Hand | Qty per Kit | Total Qty | Qty Issued | Date Issued | Status |
|---------------------------------|------------------------|---------------|-------------|---------------------|------------------|-----------------|--------------------|----------------|-------------|--------------|---------------|----------------|--------|
|---------------------------------|------------------------|---------------|-------------|---------------------|------------------|-----------------|--------------------|----------------|-------------|--------------|---------------|----------------|--------|

D2620

Manufactured

No

110

Each

13.0000

1

1

D2620

Skidtube, 206 Skidtube

**

Location

Loc Qty

Loc Code

LG

77996

13

71616

3

71617

6

75470

2

75587

2

① RM/D 12-1-25

D2647

Manufactured

No

110

Each

183.0000

1

1

D2647

Cap

**

Location

Loc Qty

Loc Code

LG002

183

73826

74

75482

109

BE12-126

1

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
| | | | | | | | |
| | | | | | | | |

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC Section A | Corrective Action Section B | | | Verification Section C | Approval Chief Eng | Approval QC Inspector |
| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
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NOTE: Date & initial all entries

Picklist Print

December-23-11 10:26:23 AM

Page 2

Work Order ID: 77954

77954

Parent Item: D206-642-151

D206-642-151

Parent Item Name: Replacement Skidtube

Start Date: 22/12/2011

Required Date: 01/02/2012

Start Qty: 1.00

Required Qty: 1.00

CR3212-4-04

Purchased

No

180

Each

12,557.00

52

52

CR3212-4-04

Cherry Rivet

**

DL 12/02/07

Location

Loc Qty

Loc Code

ST331

2567

116471

78

117816

3

118686

1

118840

16

119017

2459

119075

10

st510

9990

119075

9990

(52)

D2654-1

Manufactured

No

180

Each

0.0000

1

1

D2654-1

Web

77279/21 77281

(1) **

DL 12/02/07

D3286-1

Manufactured

No

180

Each

178.0000

2

2

D3286-1

Doubler

**

SAD 12-02-06

Location

Loc Qty

Loc Code

LG002

178

74872

6

75484

54

76772

December-23-11 10:26:23 AM

Shop Packet Print

Page 2

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
| | | | | | | | |
| | | | | | | | |

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
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NOTE: Date & initial all entries

Picklist Print

December-23-11 10:26:23 AM

Page 3

Work Order ID: 77954

Parent Item: D206-642-151

Parent Item Name: Replacement Skidtube

77954

D206-642-151

Start Date: 22/12/2011

Required Date: 01/02/2012

Start Qty: 1.00

Required Qty: 1.00

D2649

Manufactured No

200 Each

634.0000

19

19

D2649

Cross Bolt Spacer

**

BE 12-02-08
B 78583 19

Location

Loc Qty

Loc Code

LG001

634

65317

1

68224

2

68507

11

71355

2

72704

2

72841

11

73390

8

73857

21

73858

53

73859

4

73860

4

76793

515

D3286-3

Manufactured No

200 Each

18.0000

2

2

D3286-3

Spacer

**

BE 12-02-09
B 78015 12

Location

Loc Qty

Loc Code

LG001

1

74117

1

LG002

17

75483

17

D2680-041

Manufactured No

210 Each

64.0000

1

1

D2680-041

Nut Plate

**

1 12/02/09

Location

Loc Qty

Loc Code

ST020

64

75479

64

December-23-11 10:26:23 AM

Shop Packet Print

Page 3

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
| | | | | | | | |
| | | | | | | | |

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
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NOTE: Date & initial all entries

Picklist Print

December-23-11 10:26:23 AM

Page 4

Work Order ID: 77954

77954

Parent Item: D206-642-151

D206-642-151

Parent Item Name: Replacement Skidtube

Start Date: 22/12/2011

Required Date: 01/02/2012

Start Qty: 1.00

Required Qty: 1.00

CR3212-4-03

Purchased

No

210

Each

1,762.000

2

2

CR3212-4-03

Cherry Rivet

**

2 2 12/02/09

Location

Loc Qty

Loc Code

FP002

768

114859

768

ST331

994

110139

2

119017

992

AN960JD416

NAS1149D0463J

Purchased

No

210

Each

0.0000

1

1

AN960JD416

Washer

118384

**

u for GL

CCR264SS3-3

Purchased

No

210

Each

993.0000

2

2

CCR264SS3-3

Cherry Rivet

**

2 2 12/02/09

Location

Loc Qty

Loc Code

ST331

993

113973

2

117849

147

119017

844

MS27039-4-06

Purchased

No

210

Each

323.0000

1

1

MS27039-4-06

Screw

**

BL 12-2-10

Location

Loc Qty

Loc Code

ST292

323

119075 ✓

323

1

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
| | | | | | | | |
| | | | | | | | |

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
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| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
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NOTE: Date & initial all entries

Picklist Print

December-23-11 10:26:23 AM

Page 5

Work Order ID: 77954

77954

Parent Item: D206-642-151

D206-642-151

Parent Item Name: Replacement Skidtube

Start Date: 22/12/2011

Required Date: 01/02/2012

Start Qty: 1.00

Required Qty: 1.00

D2651-1 Manufactured No

270 Each

357.0000

6 6

D2651-1

Plug

**

BL 12-2-16

Location
 * FP001 78124
 57869
 66445
 69018
 70839
 71037
 73827

Loc Qty

357
 1
 10
 2
 2
 31
 311

Loc Code

6,

D2651-3 Manufactured No

270 Each

847.0000

6 6

D2651-3

O-Ring

**

BL 12-2-16

Location

FP001

61962
 73828 ✓

Loc Qty

847
 12
 835

Loc Code

6

D3873-1 Manufactured No

280 Each

611.0000

14 14

D3873-1

Bushing

**

BL 12-2-16

Location

ST088

7807
 64760
 68247
 73829
 73830
 76792

Loc Qty

611
 1
 4
 19
 2
 585

Loc Code

14

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
| | | | | | | | |
| | | | | | | | |

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC Section A | Corrective Action Section B | | | Verification Section C | Approval Chief Eng | Approval QC Inspector |
| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
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NOTE: Date & initial all entries

Picklist Print

December-23-11 10:26:23 AM

Page 6

Work Order ID: 77954

77954

Parent Item: D206-642-151

D206-642-151

Parent Item Name: Replacement Skidtube

Start Date: 22/12/2011

Required Date: 01/02/2012

Start Qty: 1.00

Required Qty: 1.00

D2646

Manufactured No

280

Each

153.0000

1

1

D2646

Aft Cap

**

Bl 12-2-16.

Location

Loc Qty

Loc Code

FP002

153

62678

5

68280

5

70945

1

71038

4

71070

2

73294

1

73825✓

135

1

D3805-041

Manufactured No

280

Each

1.0000

1

1

D3805-041

Wearplate Assembly Fwd, Low Gear

**

Bl 12-2-16.

Location

Loc Qty

Loc Code

FP001

1

75149

1

1

MS27039-1-08

Purchased No

280

Each

1,243.000

2

2

MS27039-1-08

Screw

**

Bl 12-2-16.

Location

Loc Qty

Loc Code

ST291

1243

117423

77

118910

226

119075✓

440

119109

500

2

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
| | | | | | | | |
| | | | | | | | |

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC Section A | Corrective Action Section B | | | Verification Section C | Approval Chief Eng | Approval QC Inspector |
| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
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NOTE: Date & initial all entries

Picklist Print

December-23-11 10:26:23 AM

Page 7

Work Order ID: 77954

77954

Parent Item: D206-642-151

D206-642-151

Parent Item Name: Replacement Skidtube

Start Date: 22/12/2011

Required Date: 01/02/2012

Start Qty: 1.00

Required Qty: 1.00

MS21042L3 Purchased No

280 Each

6,837.000 7 7

MS21042L3

Nut

**

BR 12-2-16

Location

Loc Qty

Loc Code

ST300

6837

117441

16

117885

32

118451

5

118927

3

119017

5988

119075

793

7

D3805-045 Manufactured No

280 Each

2.0000 1 1

D3805-045

Wearplate Assembly Aft, Low Gear

**

BR 12-2-16

Location

Loc Qty

Loc Code

FP001

2

73817

1

74896

1

1

AN960JD10L WAS1149D0332L Purchased No

280 Each

0.0000 2 2

AN960JD10L

Washer

**

2

BR 12-2-16

AN3-37A Purchased No

280 Each

1,546.000 7 7

AN3-37A

Bolt

**

BR 12-2-16

Location

Loc Qty

Loc Code

ST353

1546

117619

4

119086

1542

7

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
| | | | | | | | |
| | | | | | | | |

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC Section A | Corrective Action Section B | | | Verification Section C | Approval Chief Eng | Approval QC Inspector |
| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
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NOTE: Date & initial all entries

Picklist Print

December-23-11 10:26:23 AM

Work Order ID: 77954

77954

Parent Item: D206-642-151

D206-642-151

Parent Item Name: Replacement Skidtube

Start Date: 22/12/2011

Required Date: 01/02/2012

Start Qty: 1.00

Required Qty: 1.00

NAS1149D0363J

Purchased

No

280

Each

2,252.000

7

7

NAS1149D0363.I

**

BR 12-2-10

Washer

Location

Loc Qty

Loc Code

ST298

120142

2252

117601

61

118077

1

118612

18

118968

137

119537

2035

7.

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
| | | | | | | | |
| | | | | | | | |

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC Section A | Corrective Action Section B | | | Verification Section C | Approval Chief Eng | Approval QC Inspector |
| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

NOTE: Date & initial all entries

| ITEM | Qty -041 | Qty -043 | Part Number | Description |
|------|-------------|-------------|--------------|---------------------------------|
| 1 | X | | D3804-041 | SKIDTUBE ASSEMBLY, 206 A/B LOW |
| 2 | | X | D3804-043 | SKIDTUBE ASSEMBLY, 206 A/B HIGH |
| 5 | 1 | 1 | D2600-1-160 | EXTRUSION |
| 6 | 1 | 1 | D2646 | AFT CAP |
| 7 | 1 | 1 | D2647 | CAP |
| 8 | 19 | 20 | D2649 | CROSS BOLT SPACER |
| 9 | 6 | 8 | D2651-1 | PLUG |
| 10 | 6 | 8 | D2651-3 | O-RING |
| 11 | | 1 | D2654-3 | WEB |
| 12 | 1 | | D2654-1 | WEB |
| 13 | 1 | 1 | D2680-041 | NUT PLATE |
| 14 | 2 | 2 | D3286-1 | DOUBLER |
| 15 | 2 | 2 | D3286-3 | STUD |
| 21 | 2 | 2 | AN960JD10L | WASHER |
| 22 | 1 | 1 | AN960JD416 | WASHER |
| 23 | 2 | 2 | CCR264SS3-3 | RIVET |
| 24 | 2 | 2 | CR3212-4-03 | RIVET |
| 25 | 52 | 52 | CR3212-4-04 | RIVET |
| 26 | 2 | 2 | MS27039-1-08 | SCREW |
| 27 | 1 | 1 | MS27039-4-06 | SCREW |

NOTES

- 1) MATERIAL: N/A
- 2) FINISH: -CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
-POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
- 3) BLACK ANTI-SKID PAINT AS INDICATED TO 0.5 ABOVE LOCATION RIDGE PER DART QSI 005 4.4
- 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 5) UNITS: INCHES UNLESS OTHERWISE NOTED
- 6) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 7) IDENTIFICATION: NONE
- 8) WEIGHT: 12.5 lb
- 9) WELD PER DART QSI 004
- 10) BENDING: DAMAGE TOLERANCE ON FWD BEND:
THERE SHOULD BE NO VISIBLE WRINKLES IN THE BEND FROM THE GROUND TO A HEIGHT OF 5 INCHES ABOVE THE GROUND. IT IS ACCEPTABLE TO POLISH OUT GOUGES UP TO 0.020 DEEP IN THE BENT PORTION OF THE TUBE. A MAXIMUM REDUCTION IN DIAMETER OF 0.150" IS ACCEPTABLE IN THE BENT PORTION OF THE TUBE.
- 11) BOND WEB INTO OUTER TUBE WITH SIKAFLEX-241/-291 ADHESIVE PER DART QSI 015
- 12) INSERT D2651-1 PLUG C/W D2651-3 O-RING IN HOLES MARKED 'P' (BOTH SIDES OF TUBE)

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 77954 M.L.U
11/12/23

RELEASED
UP 09.03.03
per ECN 09-538

| | | | |
|------------|-------------|----|----------|
| A | NEW ISSUE | MB | 08.07.07 |
| REV. | DESCRIPTION | BY | DATE |
| DESIGN | 97 | | |
| DRAWN | 97 | | |
| CHECKED | 97 | | |
| MFG. APPR. | 97 | | |
| APPROVED | 97 | | |
| DE APPR. | 97 | | |
| DATE | 08.07.07 | | |

DART AEROSPACE USA, INC
PORT HADLOCK, WA

DRAWING NO. D3804
TITLE SKIDTUBE ASSEMBLY, 206A/B
SCALE NTS

REV. A
SHEET 1 OF 5

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| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
| | | | | | | | |
| | | | | | | | |

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

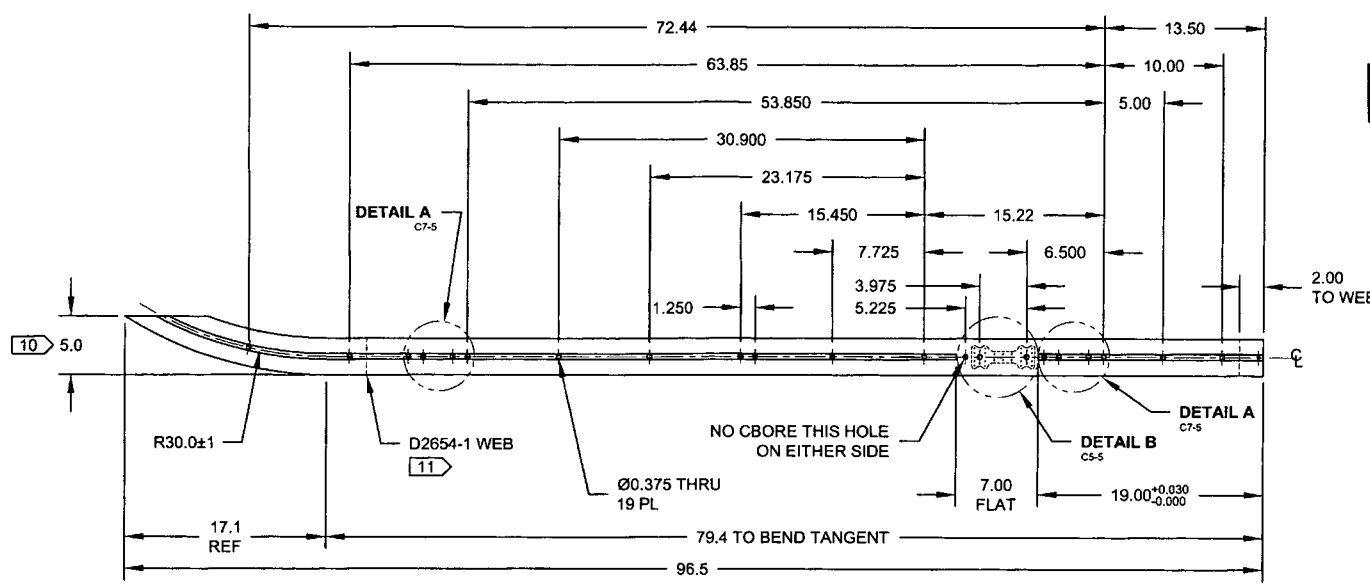
Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC Section A | Corrective Action Section B | | | Verification Section C | Approval Chief Eng | Approval QC Inspector |
| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
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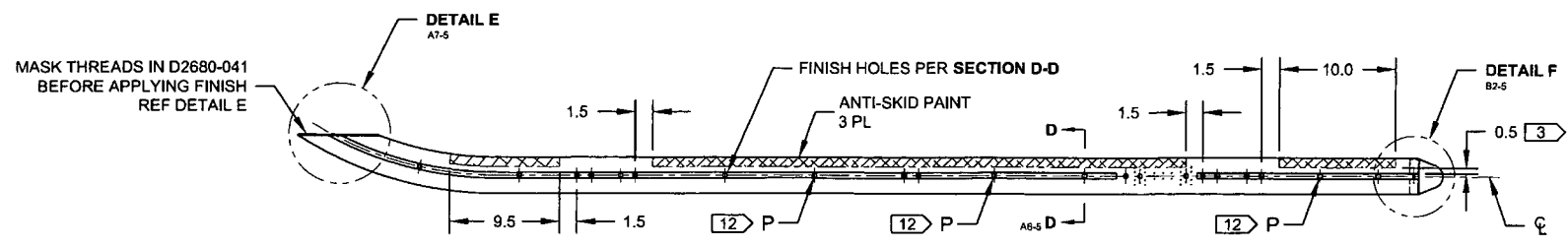
NOTE: Date & initial all entries

77954

RELEASED
09.03.03



D3804-041 BENDING/DRILLING DETAIL



D3804-041 ASSEMBLY/FINISHING DETAIL

| | | | |
|------------|----------|--|--------------|
| DESIGN | 91 | DART AEROSPACE USA, INC | |
| DRAWN | 1 | PORT HADLOCK, WA | |
| CHECKED | 1 | DRAWING NO. | REV. A |
| MFG. APPR. | 1 | D3804 | SHEET 2 OF 5 |
| APPROVED | 1 | TITLE | SCALE |
| DE APPR. | 1 | SKIDTUBE ASSEMBLY, 206A/B | NTS |
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| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
| | | | | | | | |
| | | | | | | | |

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

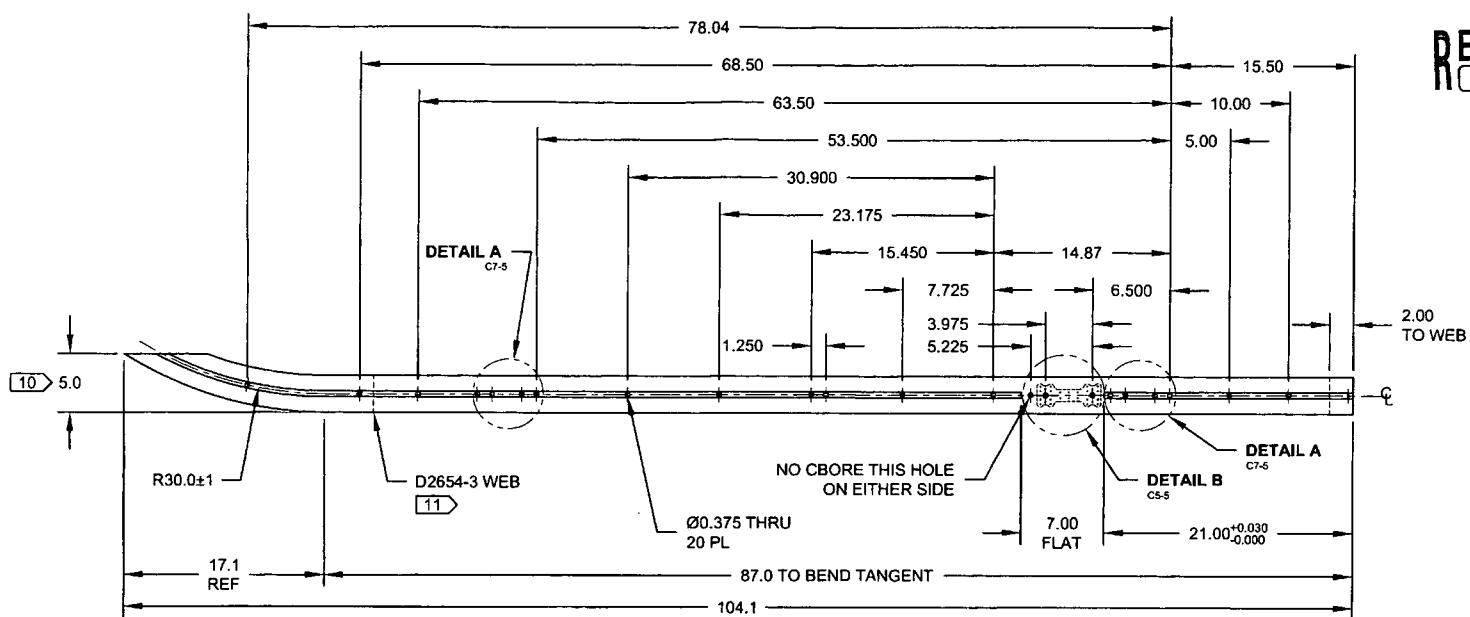
Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC Section A | Corrective Action Section B | | | Verification Section C | Approval Chief Eng | Approval QC Inspector |
| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
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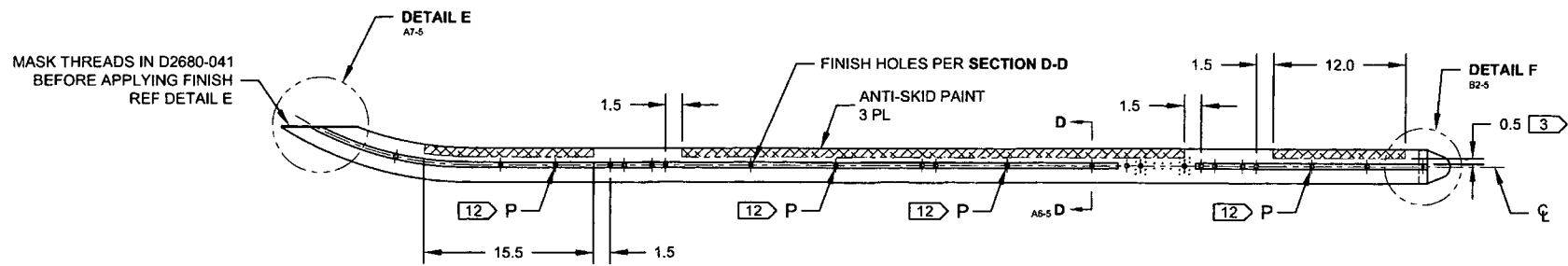
NOTE: Date & initial all entries

77954

RELEASED
(UP 09-03-03)



D3804-043 BENDING/DRILLING DETAIL



D3804-043 ASSEMBLY/FINISHING DETAIL

| | | | |
|------------|----------|--|--------------|
| DESIGN | 97 | DART AEROSPACE USA, INC | |
| DRAWN | 97 | PORT HADLOCK, WA | |
| CHECKED | 97 | DRAWING NO. | REV. A |
| MFG. APPR. | 97 | D3804 | SHEET 3 OF 5 |
| APPROVED | 97 | TITLE | SCALE |
| DE APPR. | 97 | SKIDTUBE ASSEMBLY, 206A/B | NTS |
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|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
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Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

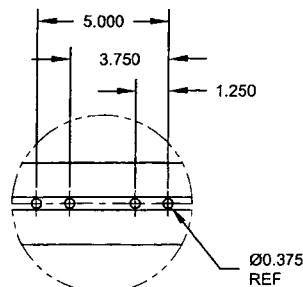
Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC Section A | Corrective Action Section B | | | Verification Section C | Approval Chief Eng | Approval QC Inspector |
| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
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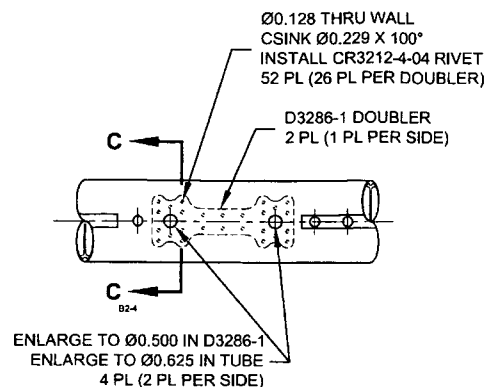
NOTE: Date & initial all entries

77954

RELEASED
UP 09.03.07

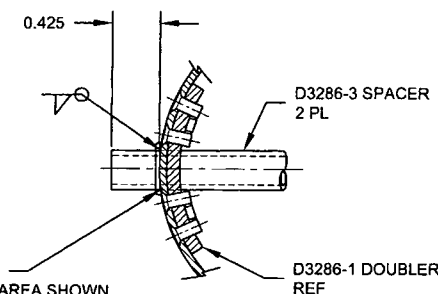


DETAIL A
SCALE NONE
D6-2
C2-2
D6-3
C2-3

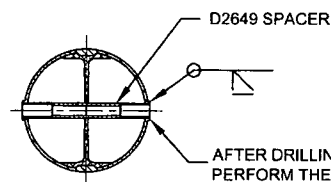


DETAIL B
SCALE NONE
C3-2
C3-3

- TO INSTALL D3286-1/-3:
1. GRIND OFF FLANGE IN AREA SHOWN, FLUSH WITH OUTSIDE SURFACE OF ROUND TUBE
 2. LOCATE & DRILL D3286-1 DOUBLER USING DT3286-1T1
 3. ENLARGE HOLES IN D3286-1 TO Ø0.500
 4. ENLARGE HOLES IN TUBE TO Ø0.625 AND CHAMFER HOLE 0.03 X 45°
 5. RIVET D3286-1 TO TUBE
 6. INSERT D3286-3 SPACER
 7. WELD IN PLACE AND GRIND FLUSH



SECTION C-C
PARTIAL SECTION
SCALE NONE
C6-4



SECTION D-D
FOR Ø0.375 HOLES ONLY
SCALE NONE
A4-2
A4-3

- AFTER DRILLING AND BENDING ASSEMBLY PERFORM THE FOLLOWING FOR Ø0.375 HOLES ONLY:
1. CHAMFER HOLE 0.03 X 45°
 2. INSERT D2649 SPACER
 3. WELD INTO PLACE AND GRIND FLUSH
 4. CBORE TO Ø0.313 X 0.75 DP (EXCEPT WHERE INDICATED)

| | | | |
|---|----------|---|--------------|
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| DRAWN | 91 | PORT HADLOCK, WA | |
| CHECKED | 91 | DRAWING NO. | REV. A |
| MFG. APPR. | 91 | D3804 | SHEET 4 OF 5 |
| APPROVED | 91 | TITLE | SCALE |
| DE APPR. | 91 | SKIDTUBE ASSEMBLY, 206A/B | NTS |
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Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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NOTE: Date & initial all entries

77954

RELEASED
09-03-03

CCR264SS3-3
RIVET
2 PL

CR3212-4-03 RIVET
2 PL

VIEW G-G
SCALE NONE A7-5

D2647 CAP, TO INSTALL:
1. CUT TUBE LEVEL
2. REMOVE RIDGE ON FWD SIDE
3. LOCATE D2647 (TRIM AS REQD)
4. WELD D2647 IN PLACE
5. GRIND FLUSH
6. RIVET D2680-041 NUT PLATE IN PLACE

MS27039-4-06 SCREW
AN960JD416 WASHER
D2680-041
NUTPLATE

1.0 REMOVE RIDGE ON
INSIDE OF SKIDTUBE
LEAVE 0.070 MIN.

DETAIL E
SCALE NONE B7-2
B7-3

0.400

END OF WEB

BORE OUT END
OF SKIDTUBE
TO 0.75 DEPTH
AND 0.070 WALL

SEAL WITH
SIKAFLEX-241/291

D2646 AFT CAP

Ø0.204
REF

MS27039-1-08 SCREW
AN960JD10L WASHER
2 PL

DETAIL F
SCALE NONE B2-2
B2-3

| | | | |
|------------|----------|--|--------------|
| DESIGN | 97 | DART AEROSPACE USA, INC | |
| DRAWN | 97 | PORT HADLOCK, WA | |
| CHECKED | 97 | DRAWING NO. | REV. A |
| MFG. APPR. | 97 | D3804 | SHEET 5 OF 5 |
| APPROVED | 97 | TITLE | SCALE |
| DE APPR. | 97 | SKIDTUBE ASSEMBLY, 206A/B | NTS |
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| | | | | | | | | |

NOTE: Date & initial all entries

NO. 25

AWS D17.1.2001
QUALIFICATION TEST RECORD

Name: Anthony Elliot
Job number: 77992
Part number: 186-242-15
Description: SA-508 LC
Welding Process: Tig[] Mig[]
Base material: Aluminum
Current: AC[] DC[]

TEST REQUIREMENTS AND RESULTS

Visual: pass[] fail[]
Penetration: pass[] fail[]

UNACCEPTABLE

Cracks: pass[] fail[]
Undercut: pass[] fail[]
Pin holes: pass[] fail[]
Overlap (cold lap): pass[] fail[]
Porosity (surface): pass[] fail[]
Coloration: pass[] fail[]

Qualifier Anthony Elliot Date of Test Coupon 12-21-05

Welder Anthony Elliot Date of Test Coupon 12-21-05

The above named individual is qualified in accordance with AWS D17.1.2001 to weld